



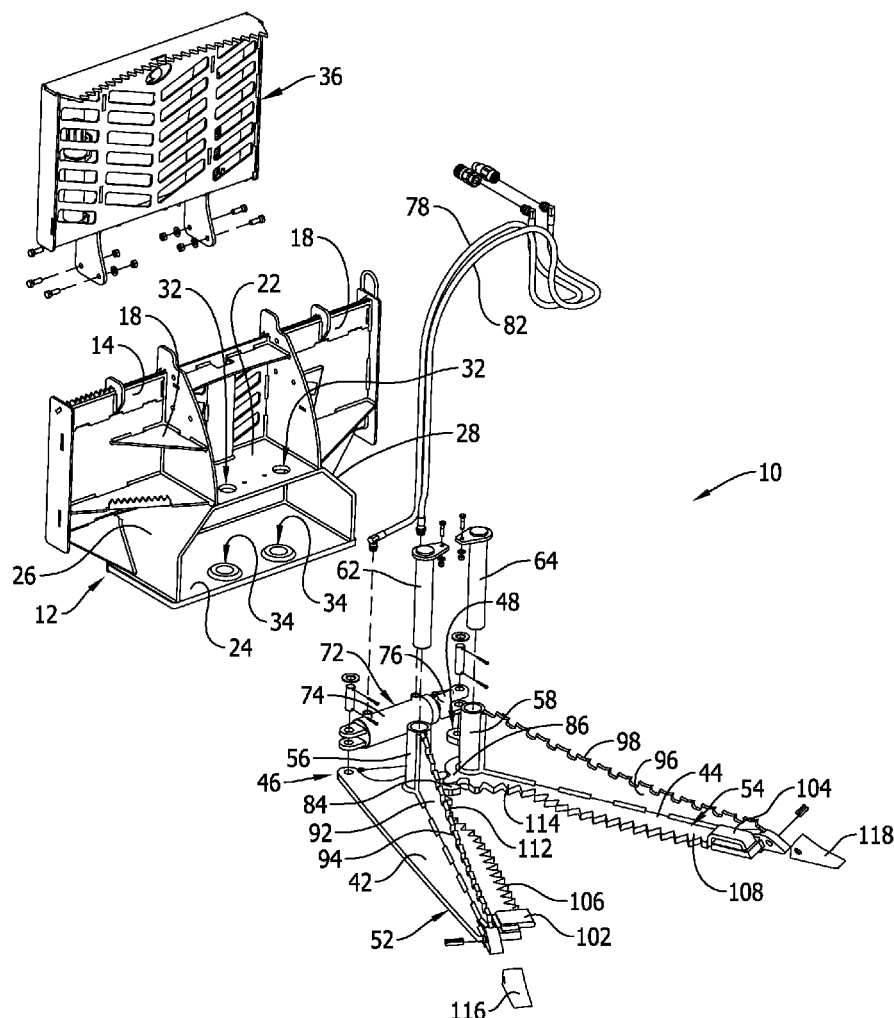
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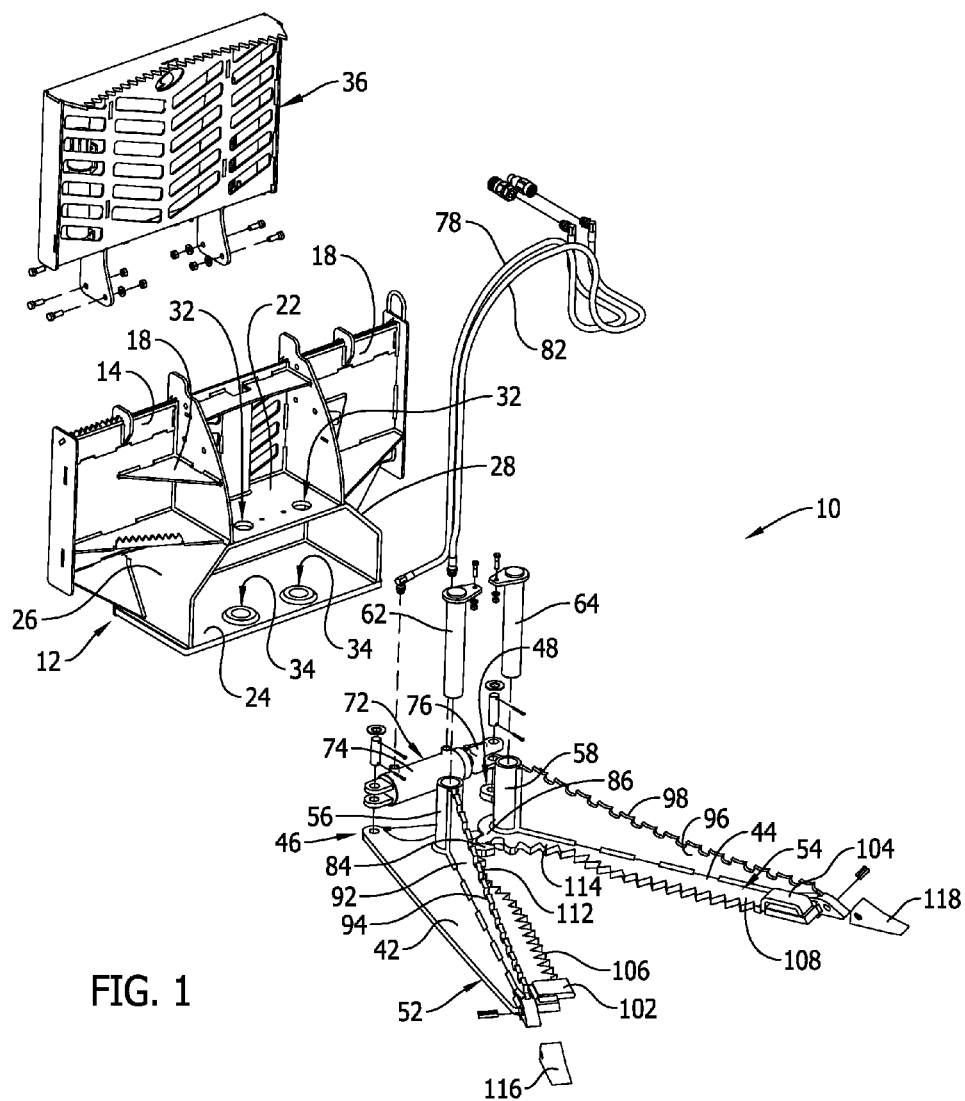
(19) **United States**(12) **Patent Application Publication**
Niekamp(10) **Pub. No.: US 2017/0196174 A1**(43) **Pub. Date: Jul. 13, 2017**(54) **OBJECT LIFTING, PULLING AND DIGGING APPARATUS**(52) **U.S. Cl.**CPC *A01G 23/062* (2013.01); *B66C 1/58* (2013.01)(71) Applicant: **Danuser LLC**, Fulton, MO (US)(72) Inventor: **Gary J. Niekamp**, Jefferson City, MO (US)(73) Assignee: **Danuser LLC**, Fulton, MO (US)(21) Appl. No.: **14/993,559**(22) Filed: **Jan. 12, 2016****Publication Classification**(51) **Int. Cl.***A01G 23/06* (2006.01)*B66C 1/58* (2006.01)

(57)

ABSTRACT

An object lifting, pulling and digging apparatus has a pair of jaws that can be opened to enable positioning the jaws around a post, tree, and/or bush then closed around the post, tree, and/or bush. The jaws can then be raised to pull the post, tree, and/or bush from the ground. The jaws of the apparatus can also be closed and angled downwardly to drive the distal ends of the jaws into the ground, where the jaws can then be moved upwardly to dig the post, tree, and/or bush from the ground. The apparatus can easily be attached to a vehicle equipped with a universal quick attach hitch and having auxiliary hydraulics, for example, a "skid steer" type farm or construction vehicle.





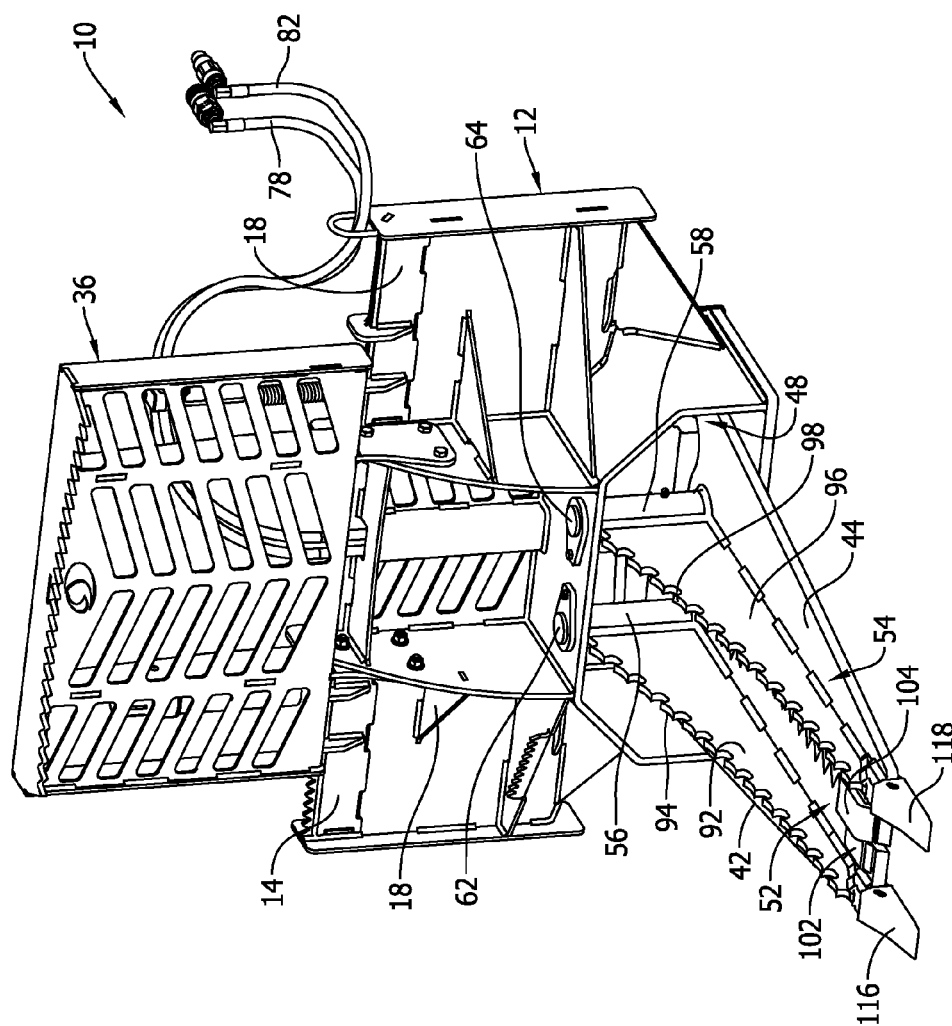


FIG. 2

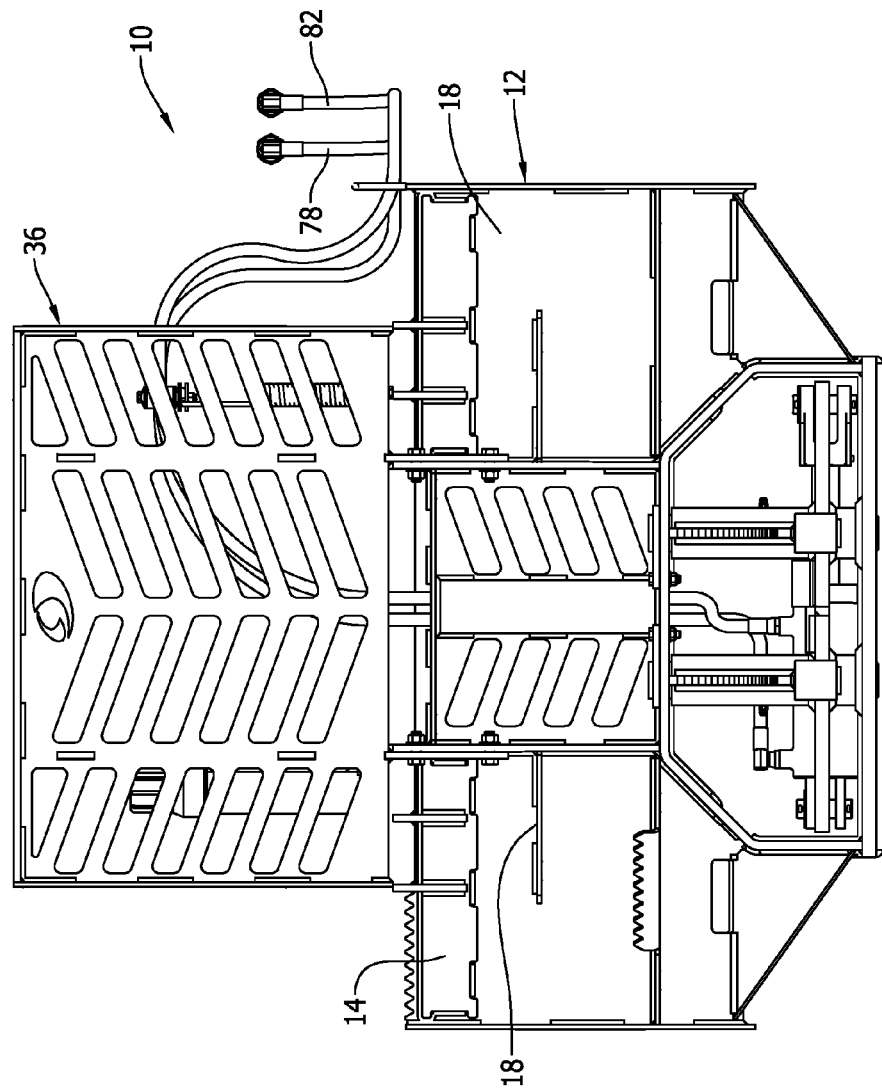
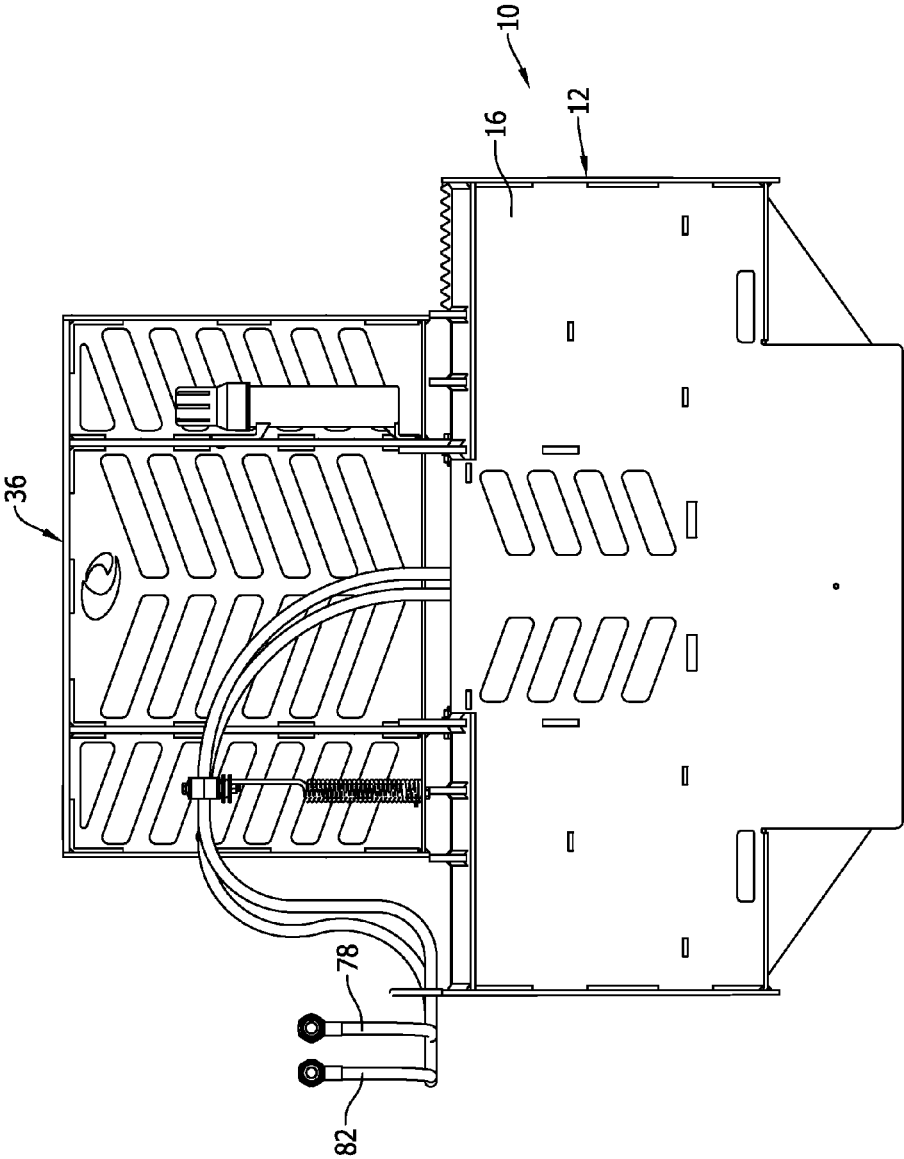


FIG. 3



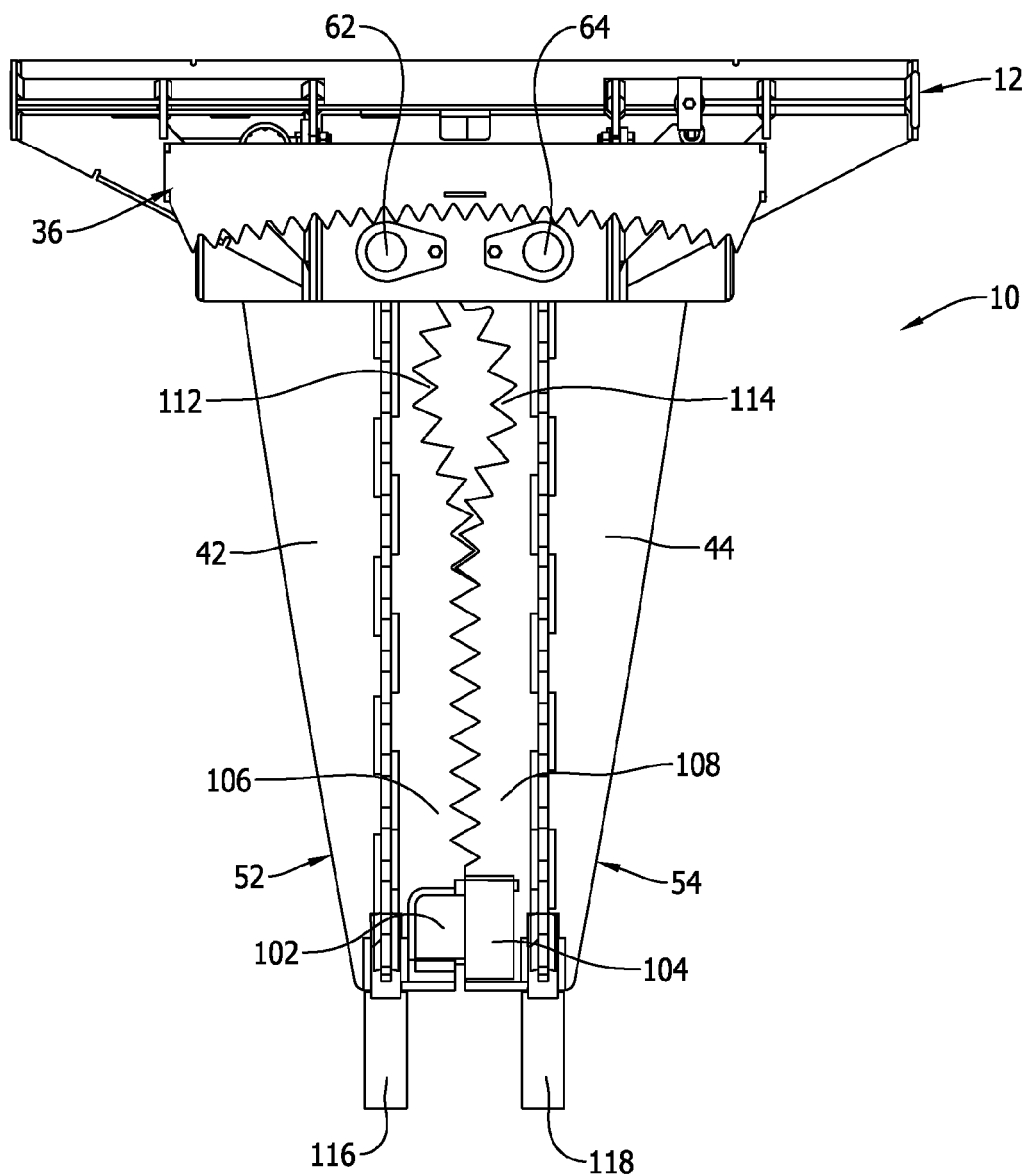


FIG. 5

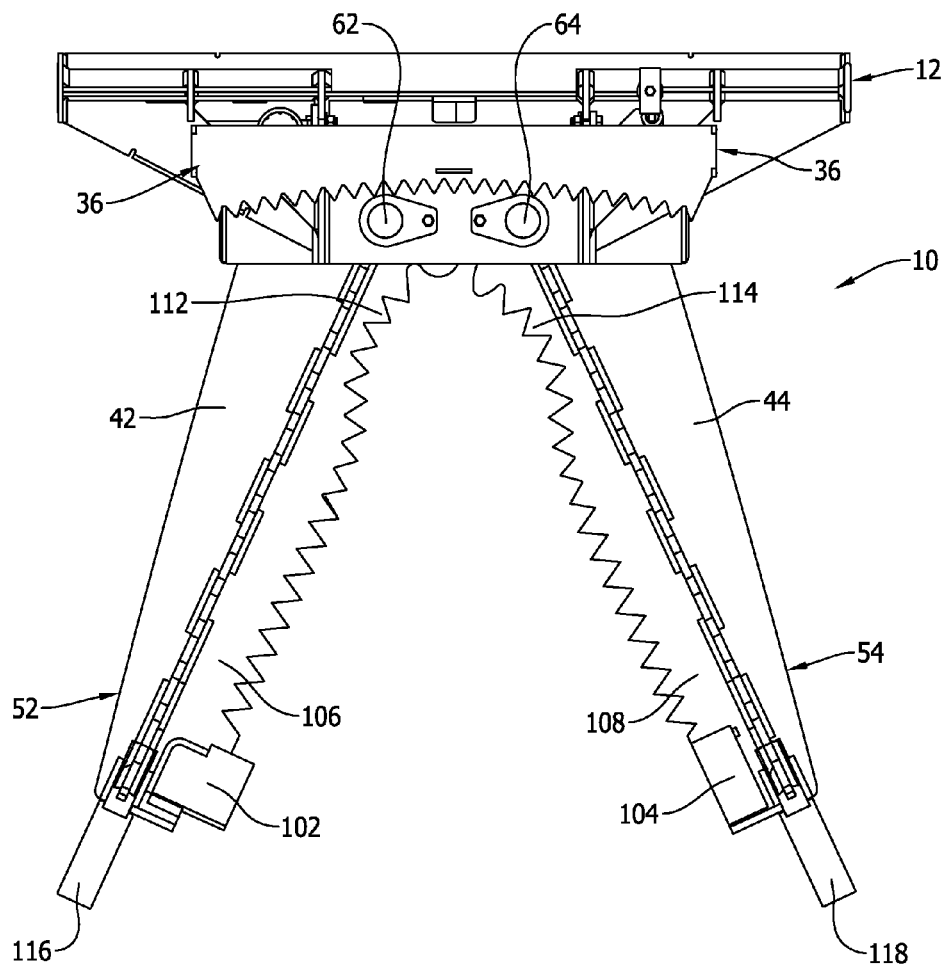


FIG. 6

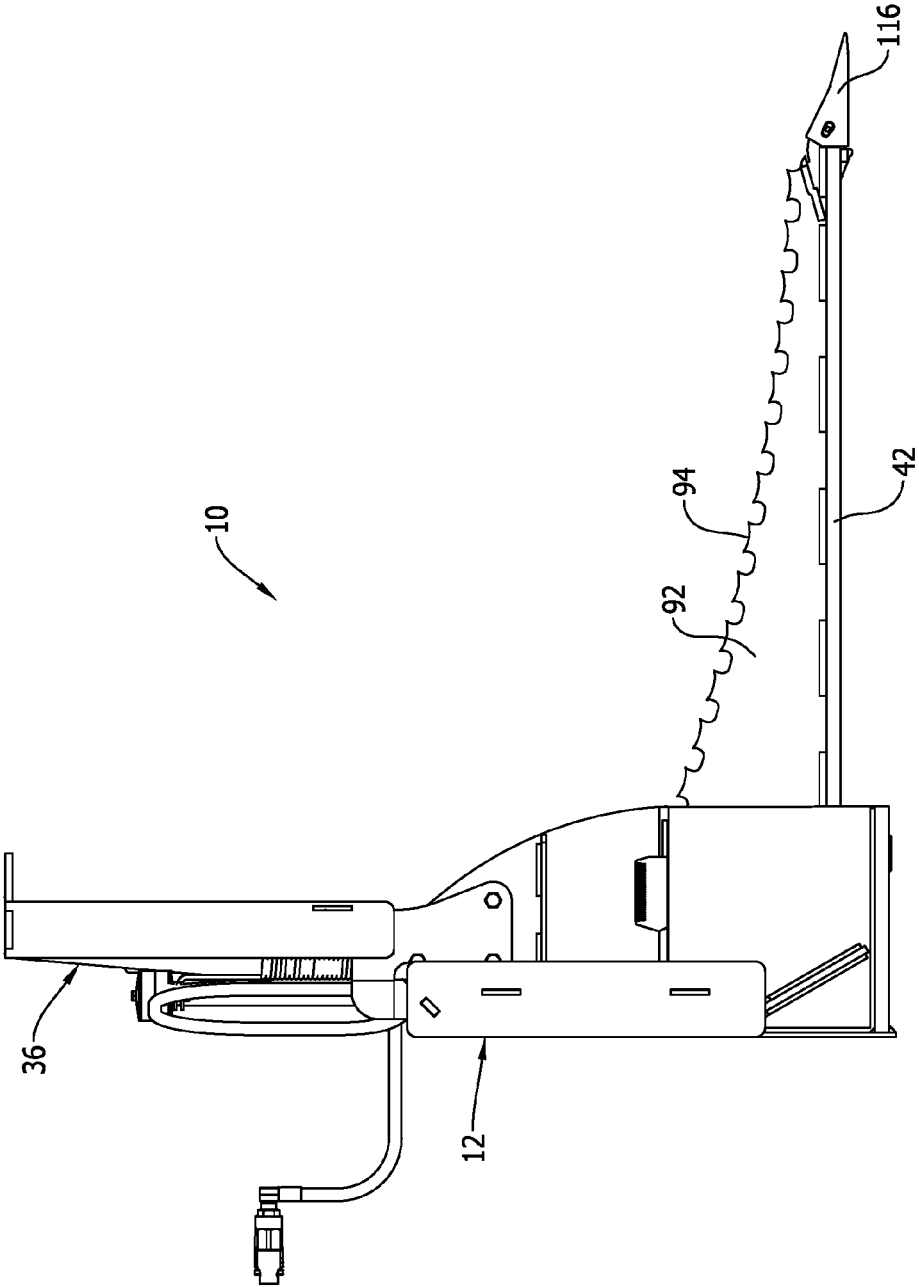


FIG. 7

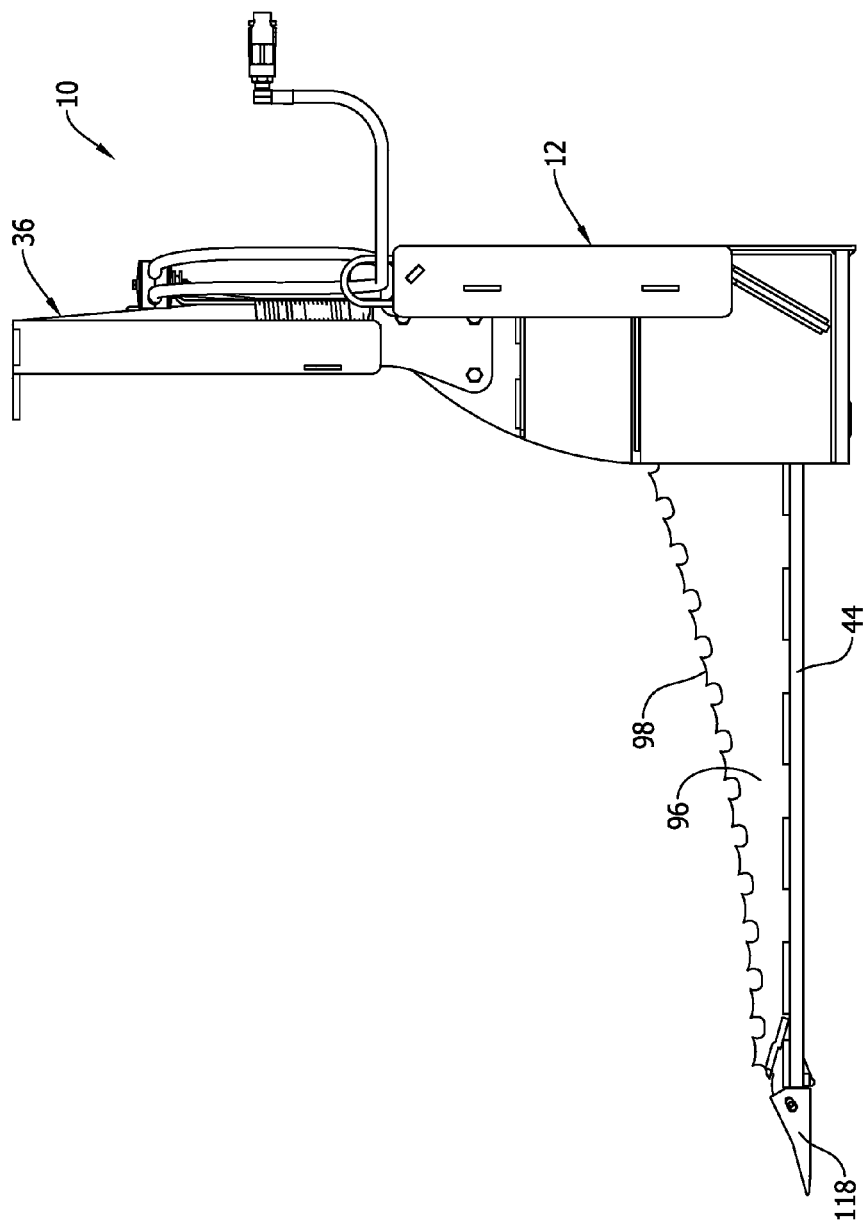


FIG. 8

OBJECT LIFTING, PULLING AND DIGGING APPARATUS

FIELD

[0001] This disclosure pertains to a post, tree and/or bush pulling and digging apparatus. More specifically, this disclosure pertains to an apparatus having a pair of hydraulically actuated jaws that can be opened to enable positioning the jaws around a post, tree and/or bush, then closed around the post, tree and/or bush. The jaws can then be raised to pull the post, tree and/or bush from the ground. The jaws of the apparatus can also be closed and angled downwardly to drive the distal ends of the jaws into the ground, where the jaws can then be moved upwardly to dig the post, tree and/or bush from the ground. The apparatus can be easily attached to a vehicle equipped with a universal quick attach hitch and having auxiliary hydraulics, for example a “skid steer” type farm or construction vehicle.

BACKGROUND

[0002] There are currently available various different types of apparatus that can be operated to engage jaws of the apparatus around a post, tree, bush, etc., and then raised to pull the post, tree, bush, etc. from the ground. The jaws of the apparatus can also be moved to their closed positions and the closed jaws can then be driven into the ground beneath the post, tree, bush, etc. The jaws can then be raised to dig the post, tree, bush, etc. from the ground. These apparatus are designed to be attached to vehicles equipped with a universal quick attach hitch and having auxiliary hydraulics, for example “skid steer” type farm or construction vehicles. The constructions of and operations of these apparatus are basically the same.

[0003] Many of the currently available apparatus’ lack replacement digging teeth and rely on the blunt ends of the jaws to dig beneath the object. In addition they do not allow for cutting of roots while digging. Due to this a larger vehicle is required to overcome the increased digging force required to excavate/break the tree roots if capable. If a larger vehicle is not available then the size of tree that is capable of removal is decreased.

[0004] Many of the these known pulling and digging apparatus have one stationary jaw and one moveable jaw. In operating this type of apparatus it can be difficult at times to center the pulling load relative to the vehicle to which the apparatus is attached. Additionally, the single moveable jaw with a side mounted actuator decreases the operating range of the jaw, limiting the size of the object that can be grasped.

[0005] Additionally, many of the current pulling and digging apparatus have an actuator for the moveable jaw that is positioned alongside the moveable jaw. This positioning of the actuator leaves the actuator exposed where the actuator can be damaged when digging with the apparatus.

[0006] Additionally, many of the current pulling and digging apparatus have opposing jaw surfaces that extend straight from the vehicle to which the apparatus is attached. These types of opposing jaw surfaces place limitations on the sizes of posts, trees, bushes, etc. that can be gripped between the opposing jaw surfaces. The posts, trees, bushes, etc. cannot be gripped close to the vehicle to which the apparatus is attached where the pulling and lifting power of the vehicle loader arms is greatest.

SUMMARY

[0007] The object lifting, pulling and digging apparatus of this disclosure has features that overcome many of the disadvantages associated with current pulling and digging apparatus. The apparatus can be easily attached by a universal quick attach hitch to the loader arms of a vehicle having an auxiliary hydraulic circuit. For example, the apparatus can be easily attached to the loader arms of a “skid steer” type vehicle.

[0008] The apparatus has a base with opposite front and rear surfaces. The rear surface of the base is removably attachable to the loader arms of a vehicle having an auxiliary hydraulic circuit.

[0009] A first jaw and a second jaw of the apparatus are attached to the front surface of the base. A first pin connects the first jaw to the front surface of the base for pivoting movement of the first jaw about the first pin between an open position and a closed position of the first jaw relative to the base. A second pin connects the second jaw to the front surface of the base for a pivoting movement of the second jaw about the second pin between an open position and a closed position of the second jaw relative to the base. The first pin and the second pin are positioned on the base in a single, generally vertical plane. The first jaw extends from the first pin to a distal end of the first jaw. The second jaw extends from the second pin to a distal end of the second jaw. Thus, the majority of the lengths of the first jaw and second jaw are positioned forwardly of the first pin and second pin. The first jaw and the second jaw have proximal end portions that extend rearwardly from the first pin and the second pin, respectively.

[0010] A single hydraulic actuator is connected between the proximal end portions of the first jaw and the second jaw. The actuator is controlled to move to its retracted condition to cause the first jaw and the second jaw to move to their open positions. The actuator is controlled to move to its extended condition to cause the first jaw and the second jaw to move to their closed positions. With the actuator positioned rearwardly of the first pin and the second pin, the actuator is at a protected position behind the lengths of the first jaw and the second jaw and is not exposed to the pulling and/or digging environment of the apparatus.

[0011] The proximal end portions of the first jaw and second jaw are also provided with gear teeth sections. The gear teeth sections of the first jaw and second jaw mesh between the first pin and the second pin. The meshing of the gear teeth sections synchronizes the movements of the first jaw and second jaw as they are moved between their open positions and their closed positions, and between their closed positions and their open positions.

[0012] The first jaw is also provided with a generally vertically oriented first set of saw teeth. The first set of saw teeth project upwardly from the length of the first jaw. The second jaw is also provided with a generally vertically oriented second set of saw teeth. The second set of saw teeth project upwardly along the length of the second jaw. The first and second sets of saw teeth are configured to saw through the roots of trees, bushes, etc. when the apparatus is used for digging.

[0013] The first jaw is also provided with a key tab that projects from the distal end of the first jaw toward the second jaw. The second jaw is provided with a key hole or key slot at the distal end of the second jaw. When the first and second jaws are moved to their closed positions for a digging

operation, the key tab engages in the key slot to securely attach the distal ends of the first and second jaws together and prevent their moving vertically relative to each other during a digging operation.

[0014] The first jaw has a straight section of gripping teeth that extend along a substantially straight line as the straight section of teeth extend from the distal end of the first jaw toward the proximal end of the first jaw. The second jaw also has a straight section of gripping teeth that extend along a substantially straight line as the straight section of teeth extend from the distal end of the second jaw toward the proximal end of the second jaw. The straight section of gripping teeth on the first jaw and the straight section of gripping teeth on the second jaw mesh with each other when the first jaw and the second jaw are moved to their closed positions.

[0015] The first jaw has a curved section of gripping teeth that extend from the straight section of gripping teeth on the first jaw toward the proximal end of the first jaw. The curved section of gripping teeth on the first jaw extend along a curved line as they extend from the straight section of gripping teeth on the first jaw toward the proximal end of the first jaw. The second jaw is also provided with a curved section of gripping teeth that extend from the straight section of gripping teeth on the second jaw toward the proximal end of the second jaw. The curved section of gripping teeth on the second jaw extend along a curved line as they extend from the straight section of gripping teeth on the second jaw toward the proximal end of the second jaw. The curved section of gripping teeth on the first jaw and the curved section of gripping teeth on the second jaw allow larger objects, for example larger diameter posts or larger diameter trees to be engaged between these sections of teeth near the proximal ends of the jaws and closer to the loader arms of the vehicle for maximizing pulling force.

[0016] Further features of the apparatus are disclosed in the following detailed description of the apparatus and in the drawing figures.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] FIG. 1 is an exploded view of the component parts of the apparatus

[0018] FIG. 2 is a front perspective view of the apparatus.

[0019] FIG. 3 is a front elevation view of the apparatus.

[0020] FIG. 4 is a rear elevation view of the apparatus.

[0021] FIG. 5 is a top plan view of the apparatus with the jaws in their closed positions.

[0022] FIG. 6 is a top plan view of the apparatus with the jaws in their open positions.

[0023] FIG. 7 is a right side elevation view of the apparatus.

[0024] FIG. 8 is a left side elevation view of the apparatus.

DETAILED DESCRIPTION

[0025] FIG. 1 is a representation of an exploded view of the component parts of the object lifting, pulling and digging apparatus 10 of this disclosure. Each of the component parts represented in FIG. 1 is constructed of a material that gives the component part sufficient strength for its intended functioning of pulling and digging posts, trees, bushes, etc. from the ground.

[0026] Referring to FIGS. 1-4, the apparatus 10 has a base 12 with opposite front 14 and rear 16 surfaces. The rear

surface 16 of the base 10 is configured for removable attachment to the loader arms of a vehicle having an auxiliary hydraulic circuit. For example, the rear surface 16 could be attached by a universal quick attach hitch to the loader arms of a "skid steer" type vehicle. With the base 16 attached to the vehicle, the rear surface 16 of the base is directed toward the vehicle and the front surface 14 of the base is directed away from the vehicle. The base 12 is constructed with a plurality of reinforcing panels and gussets 18 on the front surface 14 of the base. The base 12 is also constructed with a reinforced, protective box on the front surface 14 of the base. The box is comprised of a top wall 22, an opposite bottom wall 24, and opposite angled side walls 26, 28. As can be seen in FIG. 1, a pair of pivot holes 32 are formed through the box top wall 22 and a pair of pivot holes 34 are formed through the box bottom wall 24. Each pivot hole 32 through the top wall 22 is coaxial with the pivot hole 34 below it through the bottom wall 34. The axis of the pivot holes 32, 34 are positioned in a single vertically oriented plane relative to the base 12.

[0027] A brush guard assembly 36 is attached to the top of the base 12. The brush guard assembly 36 provides protection to the operator of the vehicle to which the apparatus 10 is attached when pulling or digging up posts, trees, bushes, etc. using the apparatus.

[0028] A first jaw 42 having a length with opposite proximal and distal ends and a second jaw 44 having a length with opposite proximal and distal ends are attached to the front surface 14 of the base 12. Both of the jaws 42, 44 are constructed as generally flat panels having elongate lengths that extend from proximal portions 46, 48 of the respective first 42 and second 44 jaws to distal portions 52, 54 of the respective first 42 and second 44 jaws.

[0029] A first cylindrical pivot tube 56 is attached to the first jaw 42. The pivot tube 56 has an interior bore that extends completely through the pivot tube and through the first jaw 42. The pivot tube 56 separates the first proximal portion 46 and the first distal portion 52 of the first jaw 42 with a majority of the length of the first jaw extending along the first distal portion 52 forwardly from the first pivot tube 56.

[0030] A second pivot tube 58 is attached to the second jaw 44. The second pivot tube 58 also has an interior bore that extends completely through the second pivot tube and through the second jaw 44. The second pivot tube 58 separates the second proximal portion 48 and from the second distal end 54 of the second jaw 44 with a majority of the length of the second jaw 44 extending along the second distal portion 54 forwardly from the second pivot tube 58.

[0031] A first pin 62 connects the first jaw 42 to the front surface 14 of the base 12 for pivoting movement of the first jaw about the first pin between an open position and a closed position of the first jaw relative to the base. The first pin 62 extends through the pivot hole 32 through the top wall shown to the left in FIG. 1, through the first pivot tube 56 and into the pivot hole 34 in the bottom wall shown to the left in FIG. 1. The first pivot pin 62 is secured to the box top wall 22 to prevent rotation of the pin relative to the base 12.

[0032] A second pin 62 connects to the second jaw 44 to the front surface 14 of the base 12 for pivoting movement of the second jaw about the second pin between an open position and a closed position of the second jaw relative to the base. The second pin 64 extends through the pivot hole 32 in the box top wall 22 shown to the right in FIG. 1,

through the second pivot tube 58 and into the pivot hole 34 through the box bottom wall 24 shown to the right in FIG. 1. The first pin 62 and the second pin 64 are positioned on the base 12 in a single, generally vertical plane relative to the base. The first distal portion 52 of the first jaw 42 extends forwardly from the first pivot pin 62. The first proximal portion 46 of the first jaw 42 extends rearwardly of the first pivot pin 62. The second distal portion 54 of the second jaw 44 extends forwardly from the second pivot pin 64. The second proximal portion 48 of the second jaw 44 extends rearwardly of the second pivot pin 64. Thus, the majority of the length of the first jaw 42 and the second jaw 44 are positioned forwardly of the first pin 62 and the second pin 64.

[0033] A single linear actuator 72 is connected between the first proximal portion 46 of the first jaw 42 and the second proximal portion 48 of the second jaw 44. The actuator 72 shown in FIG. 1 is a hydraulic actuator. However, any equivalent type of linear actuator could be connected between the first proximal portion 46 of the first jaw 42 and the second proximal portion 48 of the second jaw 44. The actuator 72 has a conventional construction with a housing 74 at one end of the actuator and a rod 76 at the opposite end of the actuator. A pair of hydraulic hoses 78, 82 extend from the opposite sides of the actuator housing 74. The hoses 78, 82 communicate the actuator housing 74 with the auxiliary hydraulics of the vehicle with which the apparatus 10 is used. When the actuator 72 is operated to cause the housing 74 and rod 76 to move to their extended condition, the first jaw 42 and second jaw 44 are moved to their closed positions. When the actuator 72 is operated to cause the housing 74 and rod 76 to move to their retracted condition, the first jaw 42 and second jaw 44 are moved to their open positions. With the actuator 72 positioned rearwardly of the first pin 62 and second pin 64, the actuator is positioned rearwardly of the first jaw 42 and second jaw 44 and away from the pulling or digging operation performed by the apparatus 10. The actuator 72 is also positioned in the protective box comprised of the top wall 22, the bottom wall 24 and the opposite side walls 26, 28. Thus, the actuator 72 is protected from the pulling and/or digging environment of the apparatus 10 in use.

[0034] The first proximal portion 46 of the first jaw 42 is formed with a first gear tooth section 84. The second proximal portion 48 of the second jaw 44 is formed with a second gear tooth section 86. These can be seen in FIG. 1. The first gear tooth section 84 of the first jaw 42 and the second gear tooth section 86 of the second jaw 44 mesh between the first pivot pin 62 and the second pivot pin 64. The meshing of the first gear tooth section 84 and the second gear tooth section 86 synchronizes the movements of the first jaw 42 and the second jaw 44 as they are moved between their open positions and their closed positions, and between their closed positions and their open positions. The first jaw 42 cannot be moved without the second jaw 44 also moving, and the second jaw 44 cannot be moved without the first jaw 42 also moving.

[0035] The first distal portion 52 of the first jaw 42 is formed with a generally vertically oriented first saw tooth section 92. The first saw tooth section 92 projects vertically upwardly from the length of the first jaw 42 as can be seen in FIGS. 1, 2 and 7. As can be seen in FIGS. 1, 2 and 7, as the first saw tooth section 92 extends along the first distal portion 52 of the first jaw 42 from the distal end of the first

jaw toward the first pivot tube 56, a line of saw teeth 94 on the first saw tooth section 92 are positioned further away from the first jaw 42 by the first saw tooth section 92. The second proximal portion 48 of the second jaw 44 is also formed with a generally vertically oriented second saw tooth section 96. The second jaw tooth section 96 projects vertically upwardly from the length of the second jaw 44. As can be seen in FIGS. 1, 2 and 8, as the second saw tooth section 96 extends along the second distal portion 54 of the second jaw 44 from the distal end of the second jaw toward the second pivot tube 58, a line of second saw teeth 98 on the second saw tooth section 96 is positioned further away from the second jaw 44. The first saw tooth section 92 and second saw tooth section 96 are configured to saw through roots of trees, bushes, etc. when the apparatus 10 is used for digging. With the first saw teeth 94 extending further away from the first jaw 42 as they extend toward the first pivot tube 56 and the second saw teeth 98 extending further away from the second jaw 44 as they extend to the second pivot tube 58, as the jaws are pushed into the ground by the loader arms of the vehicle with which the apparatus 10 is used the flat planar jaws 42, 44 prevent the saw teeth 94, 98 from moving away from the roots and the saw teeth 94, 98 continue to cut through the roots of trees, bushes, etc. as the lengths of the jaws 42, 44 are pushed further into the ground.

[0036] Referring to FIGS. 1, 2, 5 and 6, the first jaw 42 is provided with a key tab 102 that projects from the distal end of the first jaw toward the second jaw 44. The second jaw 44 is provided with a key hole or key slot 104 at the distal end of the second jaw. When the first 42 and second 44 jaws are moved to their closed positions for a digging operation, the key tab 102 engages inside the key slot 104 to securely attach the distal ends of the first 42 and second 44 jaws together and prevent their moving vertically relative to each other during a digging operation. The engagement of the key tab 102 into the key slot 104 can be seen in FIGS. 2 and 5.

[0037] Referring to FIGS. 1 and 6, the first jaw 42 has a straight section of gripping teeth 106 that extend along a substantially straight line as the straight section of teeth extend from the distal end of the first jaw toward the proximal end of the first jaw. The second jaw 44 also has a straight section of gripping teeth 108 that extend along a substantially straight line as the straight section of teeth extend from the distal end of the second jaw toward the proximal end of the second jaw. The straight section of gripping teeth 106 on the first jaw 42 and the straight section of gripping teeth 108 on the second jaw 44 mesh with each other when the first jaw and the second jaw are moved to their closed positions. This can be seen in FIG. 5.

[0038] Referring to FIGS. 1, 5 and 6, the first jaw 42 also has a curved section of gripping teeth 112. The curved section of gripping teeth 112 on the first jaw 42 extend from the straight section of gripping teeth 106 on the first jaw toward the proximal end of the first jaw. The curved section of gripping teeth 112 on the first jaw 42 extend along a curved line as they extend from the straight section of gripping teeth 106 on the first jaw toward the proximal end of the first jaw. The second jaw 44 is also provided with a curved section of gripping teeth 114. The curved section of gripping teeth 114 extend from the straight section of gripping teeth 108 of the second jaw 44 toward the proximal end of the second jaw. The curved section of gripping teeth 114 on the second jaw 44 extend along a curved line as they extend from the straight section of gripping teeth 108 on the

second jaw toward the proximal end of the second jaw. The curved section of gripping teeth **112** on the first jaw **42** and the curved section of gripping teeth **114** on the second jaw **44** allow larger objects, for example larger diameter posts, larger diameter trees, large rocks, etc. to be engaged between the sections of gripping teeth near the proximal ends of the jaws **42, 44** and closer to the loader arms of the vehicle with which the apparatus **10** is used for a maximized pulling and lifting force.

[0039] Referring to FIGS. **1, 2** and **5-8**, a first tooth **14** is removably attached to the distal end of the first jaw **42** and a second tooth **118** is removably attached to the distal end of the second jaw **44**. The teeth **116, 118** represented in the drawing figures are replaceable, excavator style digging teeth. Other types of digging teeth could be employed instead of those shown. With the teeth **116, 118** being replaceable, they can be replaced when worn after several digging operations.

[0040] As various modifications could be made in the construction of the apparatus and its method of operation herein described and illustrated without departing from the scope of the invention, it is intended that all matter contained in the foregoing description or shown in the accompanying drawings shall be interpreted as illustrative rather than limiting. Thus, the breadth and scope of the present disclosure should not be limited by any of the above described exemplary embodiments, but should be defined only in accordance with the following claims appended hereto and their equivalents.

What is claimed:

1. An object lifting, pulling and digging apparatus comprising:

- a base;
- a first jaw having a length with opposite proximal and distal ends;
- a second jaw having a length with opposite proximal and distal ends;
- a first pin connecting the first jaw to the base adjacent the proximal end of the first jaw for pivoting movement of the first jaw about the first pin relative to the base;
- a second pin connecting the second jaw to the base adjacent the proximal end of the second jaw for pivoting movement of the second jaw about the second pin relative to the base; and,
- an actuator connected to at least one of the first jaw and the second jaws.

2. The apparatus of claim **1**, further comprising:

- the first pin and second pin being positioned in a single plane; and,
- the actuator being positioned on an opposite side of the single plane from the first jaw and from the second jaw.

3. The apparatus of claim **1**, further comprising:

- the actuator being connected to both the first jaw and the second jaw.

4. The apparatus of claim **1**, further comprising:

- the first pin connecting the first jaw to the base for pivoting movement of the first jaw about the first pin between a closed position of the first jaw relative to the base and an open position of the first jaw relative to the base;
- the second pin connecting the second jaw to the base for pivoting movement of the second jaw about the second

pin between a closed position of the second jaw relative to the base and an open position of the second jaw relative to the base;

the first jaw has a straight section of gripping teeth and a curved section of gripping teeth;

the second jaw has a straight section of gripping teeth and a curved section of gripping teeth; and,

the straight section of gripping teeth of the first jaw engage with the straight section of gripping teeth of the second jaw when the first jaw and the second jaw are in their closed positions relative to the base and the curved section of gripping teeth of the first jaw and the curved section of gripping teeth of the second jaw do not engage with each other when the first jaw and the second jaw are moved to their closed positions relative to the base.

5. The apparatus of claim **4**, further comprising:

- the curved section of gripping teeth of the first jaw being arranged along a curved line; and,
- the curved section of gripping teeth of the second jaw being arranged along a curved line.

6. The apparatus of claim **1**, further comprising:

- the actuator having a housing at one end of the actuator and a rod at an opposite end of the actuator, the housing being connected to the first jaw and the rod being connected to the second jaw.

7. The apparatus of claim **1**, further comprising:

- a first digging tooth removably attached to the first jaw; and,
- a second digging tooth removably attached to the second jaw.

8. The apparatus of claim **1**, further comprising:

- a first set of saw teeth projecting generally vertically from the first jaw, a vertical projection of the first set of saw teeth from the first jaw increases as the first set of saw teeth extends from the distal end of the first jaw toward the first pin; and,
- a second set of saw teeth projecting generally vertically from the second jaw, a vertical projection of the second set of saw teeth from the second jaw increases as the second set of saw teeth extends from the distal end of the second jaw toward the second pin.

9. The apparatus of claim **1**, further comprising:

- a first set of gear teeth on the first jaw; and,
- a second set of gear teeth on the second jaw, the first set of gear teeth and the second set of gear teeth meshing with each other.

10. An object lifting, pulling and digging apparatus comprising:

- a base;
- a first jaw having a length with opposite proximal and distal ends;
- a second jaw having a length with opposite proximal and distal ends;
- a first pin connecting the first jaw to the base adjacent the proximal end of the first jaw for pivoting movement of the first jaw about the first pin relative to the base;
- a second pin connecting the second jaw to the base adjacent the proximal end of the second jaw for pivoting movement of the second jaw about the second pin relative to the base;
- an actuator connected to at least one of the first jaw and the second jaw; and,
- a first gear tooth section on the first jaw;

a second gear tooth section on the second jaw; and, the first gear tooth section and the second gear tooth section being in mesh.

11. The apparatus of claim **10**, further comprising: the first pin and second pin being positioned in a single plane; and,

the actuator being positioned on an opposite side of the single plane from the first jaw and from the second jaw.

12. The apparatus of claim **10**, further comprising: the actuator being connected to both the first jaw and the second jaw.

13. The apparatus of claim **10**, further comprising: the first pin connecting the first jaw to the base for pivoting movement of the first jaw about the first pin between a closed position of the first jaw relative to the base and an open position of the first jaw relative to the base;

the second pin connecting the second jaw to the base for pivoting movement of the second jaw about the second pin between a closed position of the second jaw relative to the base and an open position of the second jaw relative to the base;

the first jaw has a straight section of gripping teeth and a curved section of gripping teeth;

the second jaw has a straight section of gripping teeth and a curved section of gripping teeth; and,

the straight section of gripping teeth of the first jaw engage with the straight section of gripping teeth of the second jaw when the first jaw and the second jaw are in their closed positions relative to the base and the curved section of gripping teeth of the first jaw and the curved section of gripping teeth of the second jaw do not engage with each other when the first jaw and the second jaw are moved to their closed positions relative to the base.

14. The apparatus of claim **10**, further comprising: a first digging tooth removably attached to the first jaw; and, a second digging tooth removably attached to the second jaw.

15. The apparatus of claim **10**, further comprising: a first set of saw teeth projecting generally vertically from the first jaw, a vertical projection of the first set of saw teeth from the first jaw increases as the first set of saw teeth extends from the distal end of the first jaw toward the first pin; and,

a second set of saw teeth projecting generally vertically from the second jaw, a vertical projection of the second

set of saw teeth from the second jaw increases as the second set of saw teeth extends from the distal end of the second jaw toward the second pin.

16. An object lifting, pulling and digging apparatus comprising:

a base;

a first jaw having a length with opposite proximal and distal ends, the first jaw having a straight section of gripping teeth and a curved section of gripping teeth;

a second jaw having a length with opposite proximal and distal ends, the second jaw having a straight section of gripping teeth and a curved section of gripping teeth;

a first pin connecting the first jaw to the base adjacent the proximal end of the first jaw for pivoting movement of the first jaw about the first pin relative to the base;

a second pin connecting the second jaw to the base adjacent the proximal end of the second jaw for pivoting movement of the second jaw about the second pin relative to the base; and,

an actuator connected to at least one of the first jaw and the second jaw.

17. The apparatus of claim **16**, further comprising: the first pin and second pin being positioned in a single plane; and,

the actuator being positioned on an opposite side of the single plane from the first jaw and from the second jaw.

18. The apparatus of claim **16**, further comprising: the actuator being connected to both the first jaw and the second jaw.

19. The apparatus of claim **16**, further comprising: a first set of saw teeth projecting generally vertically from the first jaw, a vertical projection of the first set of saw teeth from the first jaw increases as the first set of saw teeth extends from the distal end of the first jaw toward the first pin; and,

a second set of saw teeth projecting generally vertically from the second jaw, a vertical projection of the second set of saw teeth from the second jaw increases as the second set of saw teeth extends from the distal end of the second jaw toward the second pin.

20. The apparatus of claim **16**, further comprising: a first set of gear teeth on the first jaw; and, a second set of gear teeth on the second jaw, the first set of gear teeth and the second set of gear teeth meshing with each other.

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